

## SIX NEW SPECIES OF CULICIDÆ FROM INDIA.

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(Communicated by F. V. Theobald, M.A., F.E.S.)

## CULEX TRITÆNIORHYNCHUS, sp. n.

Wings unspotted. Tarsi minutely basally banded, pale ochreous. Thorax unadorned, fuscous. Abdominal segments fuscous, with rather narrow yellowish white basal bands. Proboscis with three ochreous bands.

A minute species of generally dusky tinting and proportionately long legs. Head fuscous; eyes with a barely perceptible whitish margin; nape fuscous, with a few whitish hairs. Antennæ fuscous, minutely banded white in the male. Proboscis fuscous, with three separate ochreous bands, one forming the tip; the second sharply defined, and much broader beyond the middle; the third less sharply defined, especially in the female, midway between the large band and the base. Palpi (male) considerably longer than the proboscis, exceeding it by more than the length of the markedly subulate terminal joint, fuscous, with minute white basal bands to the last three joints; female exceptionally minute, nearly black, with an indistinct greyish tip. Thorax fuscous, with golden brown tomentum, unadorned. Wings hyaline, with nearly black scales. Axillary vein joining costa a little in front of base of anterior fork-cell, and slightly behind tip of anterior branch of five longitudinal; supernumerary and middle transverse veins in one line, and fully their united length outside the posterior transverse. Fork-cells both narrow and of nearly equal width, but the anterior the longer; their stems short, the posterior being a little the longer, so that the base of the corresponding cell is slightly outside that of the anterior fork-cell. Halteres pale yellow. Legs fuscous; the tarsi with minute ochreous basal bands to all the joints; first post-tarsal joint longer than the corresponding tibia in both sexes. Abdomen fuscous, with rather narrow yellowish white basal bands to the segments, broader in the middle than laterally, especially on the anterior segments. Length of wing of male 2.4 mm., of female 3 mm.

*Hab.* Madras.

## CULEX PSEUDO-TÆNIATUS, sp. n.\*

Wings unspotted. Tarsi black, with white rings formed on the bases and apices of contiguous joints. Thorax black, elaborately adorned with fine white lines (almost as in *C. tæniatus*, † Meig.). Abdominal segments black, with narrow basal bands; venter pale fawn. The general coloration is an intense violet-black.

This species bears a strong resemblance to *C. notoscriptus*, Skuse, and to *C. tæniatus*, but may be easily distinguished by the position of the tarsal banding, and its wanting the white band on the proboscis of the former species.

\* This comes in my genus *Stegomyia* (F. V. T.).

† This is synonymous with *Culex fasciatus*, Fabr. (F. V. T.).

♀. Head black, with a narrow median line on the nape, and the borders of the eyes snowy white. Antennæ dark brown, slightly shorter than the proboscis, which is black throughout. Palpi about one-fifth the length of the proboscis, black with white tips, and some white spotting at the articulations. Thorax black, elaborately adorned with very narrow white lines, consisting of a median, bifurcating behind, two short straight anterior lateral lines, and outside these a pair of long sigmoid-curved lines, in the external hollow of which are yet another pair of slightly curved lines, occupying the two middle fourths of the area. The posterior border of the metanotum is armed with strong bristles. The wings much resemble those of *C. albopictus*,\* and are fully the length of the abdomen, hyaline, the veins clothed with linear black scales; axillary vein joining the costa a little before the tip of the posterior branch of fifth longitudinal, and just short of the base of the anterior fork-cell; supernumerary and middle cross-veins nearly equal, joining at an oblique angle; each rather longer than the posterior transverse, and placed twice the length of the latter outside it, and nearly opposite the tip of the sixth longitudinal; posterior transverse placed less than one-third along the anterior branch of fifth longitudinal; anterior fork-cell longer and slightly narrower than the posterior, their bases nearly opposite. Legs black, with delicate white lines on the sides of the femora and tibiæ, but no distinct knee spots; the tarsal joints have minute white bands both at base and apex, combining to form a still narrow ring on the articulation, that on base of first tarsal joint often involving the tibia; in the fore legs the upper two, in the middle the upper three, and in the hind all articulations are so ringed. Abdomen black, with very narrow basal white bands of perfectly uniform width, so that it is easy to mistake their position, and to take them as on the hinder border of segment. They are best marked in the third, fourth, fifth, sixth segments; the first abdominal segment has the dorsum covered with a peculiar beak-like backward-projecting plate of the scutellum, armed with a radiating tuft of strong bristles. Length of wing, 3.1 mm. male to 5 mm. female.

*Hab.* The Lower Himalayas, 6000-8000 feet (Bakloh'n Punjab, and Naini Tal). Not common, but occasionally enters houses and bites.

I have met with the larvæ in very shallow depressions in the cemented gutter round a house, in the bottom of which was only a little sand just tinted with green algæ, in perfectly clean rain-water. They are about 8 mm. long, and very dark tinted, the head being so black that the eyes cannot be distinguished. The antennæ are very short, and, with the exception of some terminal specialized short bristles, are almost naked, and not, as usual, indistinctly two-jointed, with tufts at the constriction. The spiracle is extremely short, not half as long as the anal tubercles, and no longer than an average abdominal segment. With the exception of the large thoracic tufts, the bristles are not distinguishably compound. In the water they hold themselves

\* This is synonymous with Walker's *C. scutellaris*; both come in my new genus *Stegomyia* (F. V. T.).

nearly vertical to the surface. The pupæ are also intensely black.

*CULEX GUBERNATORIUS*, sp. n.\*

Wings unspotted. Tarsi each with two bands, one at the base of the first, the second over articulation between first and second joints. Thorax sooty, with a round anterior median and four lateral snowy spots at the corners of the notum. Abdominal segments black, with large snowy lateral spots, and a minute terminal median spot on the last; venter sooty.

♀. Head sooty black, the nape with a minute median line, a delicate border to the eyes, and a pair of small lateral spots behind them snowy white. Antennæ, proboscis, and palpi entirely black, the former with the second no longer than the succeeding joints. Thorax sooty, with snowy spots arranged as below; in front there is a large median spot, which is prolonged at the sides into a pair of lateral bars, in front of which are scarcely perceptible separate humeral spots; there is a similar pair of short lateral transverse bars at the posterior corners of the notum, besides which the pleuræ and coxæ are plentifully speckled. The posterior border of the metanotum is armed with three tufts of bristles. Wings hyaline, the veins with black scales; auxiliary vein joining the costa a little external to the middle transverse vein; second longitudinal vein springing from the first only a trifle internal to the posterior transverse; supernumerary and middle transverse veins in one line; together not much longer than the posterior transverse, and placed distinctly more than their united length outside it; anterior fork-cell somewhat longer and narrower than the posterior, but having a somewhat longer stem, which is about two-thirds as long as the cell. Halteres with white stems and black knobs, their roots protected by distinct membranous tegulæ. Legs black, with the exception of a fairly broad white band at the base of the posterior femora, and smaller patches on the under surface of the other femora; there are large white knee spots, and two broad bands, one placed on the base of the first tarsal joint and apex of the tibia, and the second on the apex of first and base of the second tarsal; in the fore legs there is a faint ring on the next articulation. Abdomen sooty black, each segment having a pair of broad lateral basal snowy spots. There is also a minute median spot on the dorsum of the last visible segment. Venter uniformly sooty black, Length of wing 3 mm.

*Hab.* Taken in Government House, Allahabad.

*CULEX PULCHRIVENTER*, sp. n.

Wings unspotted. Tarsi unbanded, black. Thorax golden scaled, with a fine median and broader lateral black lines. Abdominal segments black, with snowy basal bands, and the venter elaborately adorned with golden, snow-white, and black markings.

Head black, with two bands of golden tomentum separated by a delicate median black line on the nape, and a delicate line of golden scales round the eyes; on the sides behind the eyes are two minute patches of white scales. Antennæ almost two-thirds the length of the

\* This is a *Stegomyia* (F. V. T.).

proboscis in the male, black with black verticils; in the female the internodes are covered with whitish down; on the upper surface of the basal joint is a patch of whitish scales; second joint short. Proboscis sooty black throughout. Palpi of male but four-fifths the length of the proboscis, tapered, their terminal joints much the smallest in all dimensions; black, saving a few scattered yellowish hairs on the second joint, and a very minute yellow ring at the base of the second; in the female they are very minute, and have also a few scattered yellow hairs on the apex and base of the penultimate joint. Thorax covered with golden tomentum, through which the bare black ground shows to form black lines. On the anterior two-thirds is a large triangular golden area, divided into lateral halves by a delicate median black line; behind and external to this is a fairly broad V-shaped black mark, the limbs of which taper off in front, and at the back of the thorax laterally is yet another pair of somewhat reniform bare black marks; the golden scales are narrow and hair-like throughout, and behind develop into bristles, which project backward from the border of the metanotum in three strong tufts. The pleuræ and coxæ show a few patches of silvery scales, and there is a strong tuft of yellow hairs at the root of the wings. Wings dusky, the veins densely clothed with linear sooty-black scales. Axillary vein joining the costa midway between the supernumerary cross-vein and the base of the anterior fork-cell; supernumerary and middle cross-veins joining at a very open angle, placed a little outside the tip of the sixth longitudinal, and almost twice the length of the distinctly longer hinder cross-vein external to it; anterior fork-cell longer and somewhat narrower than the posterior; their stems about equal, the stem of the anterior being just half the length of its cell. Halteres with white stems and black knobs. Legs sooty black throughout, save for the golden lower surfaces of the femora; a distinct knee spot and a few stray bristles of the same colour on the other joints. In the male the anterior and middle legs have strong symmetrical tarsal claws, each with two accessory spines; those of the hind legs are small, symmetrical, and simple. Abdominal segments black, with narrow snowy basal bands, consisting of a pair of crescentic spots narrowly connected across the middle line, the hinder and lateral borders of the segments showing some golden hairs. Ventrally the abdomen is elaborately adorned, each of the five middle segments showing behind a large lunate golden area, bounded in front by a narrow sooty line which touches the segment in front of it in the middle line, and so separates a pair of triangular snowy patches at the sides of their bases; the anterior and hinder segments are almost purely white. Length of proboscis 3 mm.; of male palpi 2.6 mm.; of antennæ 2 mm.; of wing (female) 5 mm.

*Hab.* Naini Tal. Is essentially a sylvan species, though I have taken a specimen in the verandah. The larvæ are found in pools in the course of the (perfectly clean) fresh water surface drainage system, through which in heavy rain a perfect torrent of water flows. They are darkly tinted, about 8 mm. long when mature, and have a short spiracle, no longer than the last two abdominal segments, and but little longer than the anal papillæ.



The head is yellow at the sides. The pupæ are large and nearly black. I have not been able to induce imagines, newly escaped, to bite.

TENIORHYNCHUS AGER, sp. n.

Wings unspotted. Tarsal joints deep brown, with ochreous bands at base and apex, so that two joints combine to form rings at the articulations. Thorax unadorned, black, covered with mingled black and golden scales. Abdominal segments black, with distal ochreous bands. Proboscis black, with two ochreous bands at the tip and in the middle.

♀. Head black, with scattered golden scales. Antennæ dark brown, with a minute yellowish ring round the insertion of the second joint, which latter is no longer than the succeeding joints. Proboscis deep brown, with a broad sharply defined ochreous band in the middle of its length, and a second narrower one at its tip. Palpi about one-fifth the length of the proboscis, black, with a minute yellowish tip. Thorax black, covered with a shaggy tomentum of mingled black and golden scales; there are three groups of bristles on the posterior border of the scutellum, but they are only of moderate lengths. Wings hyaline, the veins clothed with alternatively black and yellow scales. Axillary vein joining the costa a little internal to tip of anterior branch of fifth longitudinal, while latter is opposite the base of the anterior fork-cell. Supernumerary and middle transverse veins joining at an open angle, and placed rather more than the length of either external to the posterior transverse, all three being of about equal lengths; the two fork-cells are of about equal width, but the anterior is much the longer, its stem being slightly shorter than that of the posterior, and less than a third the length of the cell. Legs dark coloured, clothed with a mixture of black and golden scales, the former preponderating except on the under surface of the femora; tarsi nearly black, with narrow ochreous bands at base and apex of the joints, which, combining, form five more or less distinct rings, placed on the articulations with the exception of the uppermost ring, into the formation of which the tibiæ do not enter. There are also more or less distinct ochreous knee spots. Abdomen nearly black, the segments having distinct ochreous bands on their hinder borders, broader laterally than in the middle, so that the dark portions form a series of lunate spots, the yellow bands almost combining laterally; there are seven distinct bands, the last visible segment being entirely yellow. Length of wing 4 mm.

*Hab.* Travancore, Madras Presidency.

CORETHRA ASIATICA, sp. n.

A single female was taken on the wall of my dining-room at Shahjahanpur, N. W. P., under a lighted lamp. It is a minute but proportionally stoutly-built gnat. From the configuration of the wing I should have been inclined to place it in *Mochlonya*, but the first tarsal joint, although barely half length of tibia, is longer than the second tarsal. Hence I place it in *Corethra*.

It is uniformly pale straw-colour throughout. Very hirsute. Body

and legs armed with hairs, the veins of the wings alone being scaled, and even these are long and narrow, approximating to hairs; those of the internal fringe being exceptionally long. The proboscis is very short, darker than the rest of the body, very short, and bilobed. Palpi short and slender, but longer than the proboscis; antennæ not banded. Thorax indistinctly marked with a darker median line in front, tapering to disappearance behind. Outside this are lines composed of minute black dots formed by the roots of hairs, and external again to these, and behind, two pear-shaped brown spots. These markings all pertain to the ground colouring, and are not produced by tomentum. Wing broad internally. Auxiliary vein joining the costa far out and beyond the tip of anterior branch of fifth longitudinal. Fork-cells with their bases opposite, and their stems nearly half as long as the branches of the anterior fork, which is much longer and narrower than the posterior; supernumerary middle and posterior transverse veins of about equal length, the two first in one open-angled line; the last just internal to the other two, and distinctly external to tip of sixth longitudinal vein. Halteres white, with a round black dot on the end of the knob. Legs rather short and stout, very hirsute, the first tarsal joint barely half the length of the tibia, but longer than the second tarsal; uniformly pale straw-colour. Abdomen of the same tint as the rest of the body, saving a few irregular brownish specks along the sides.

Shahjahanpur: Jan. 8th, 1901.

## A PRELIMINARY LIST OF THE LEPIDOPTERA OF WEI-HAI-WEI.

BY THOMAS BAINBRIGGE FLETCHER, R.N., F.E.S.

(Concluded from p. 174.)

Fam. LIMACODIDÆ.

*Parasa consocia*, Walk.—Common at light in July.

Fam. NOTODONTIDÆ.

*Phalera flavescens*, Brem.—One specimen, at light on board, 22nd July, 1898.

*Phalera fuscipennis*, Butl.—Several, at light on board, 20th and 21st July, 1898. In repose, this species tucks in its head and imitates a bit of dead stick, just like our own familiar *P. bucephala*.

*Cerura menciana*, Moore.—A male and female, on mainland, 15th May, 1899. Judging by the large number of empty cocoons on the willows around Flagstaff Camp, this species must be fairly common. The limpet-shaped eggs furnish rather a good example of protective resemblance. Above, they are of a dull salmon colour, and would evidently resemble small galls or patches of fungi, when viewed on the leaf; whilst below they are green, and so show very little when viewed through the leaf.